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**(54) Ta SPUTTERING TARGET AND ITS PRODUCTION**

(11) 6-264232 (A) (43) 20.9.1994 (19) JP  
(21) Appl. No. 5-79055 (22) 12.3.1993  
(71) NIKKO KINZOKU K.K. (72) FUMIYUKI SHIMIZU(2)  
(51) Int. Cl.<sup>3</sup>. C23C14/34, C22C27/02, C22F1/18

**PURPOSE:** To form a thin film excellent in uniformity by using a target formed from a plastically worked material of Ta having a specified content of gaseous components and a specified average grain diameter.

**CONSTITUTION:** This Ta sputtering target is formed from a plastically worked material of refined Ta having  $\leq 100$ ppm total content of gaseous components and  $\leq 1$ mm average grain diameter. A Ta ingot having  $\leq 100$ ppm total content of gaseous components is cold-worked at  $\geq 90\%$  rate of working and recrystallized by heat treatment at 900-1,300°C heating temp. in  $\leq 0.1$ mmbar vacuum. The target can be expected to contribute largely toward improving the performance of a member utilizing a thin Ta or Ta alloy film.